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Form PTO-1595

(Rev. 03/01)

OMB No. 0651-0027 (exp. 5/31/2002)

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S. DEPARTMENT OF COMMERCE  
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To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

- 1) Hun-Jan Tao  
2) Huan-Just Lin

12.04

2. Name and address of receiving party(ies)

Name: Taiwan Semiconductor Manufacturing Co., Ltd.

Internal Address: \_\_\_\_\_

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

Street Address: No. 8, Li-Hsin Road 6,

Science Based Industrial Park

City: Hsin-Chu

State: \_\_\_\_\_

Zip: \_\_\_\_\_

Country: Taiwan 300-77 R.O.C.

Additional name(s) & address(es) attached? ☐ Yes ☒ No

Execution Date: 08/12/2003

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s) 10/637,350

B. Patent No.(s) \_\_\_\_\_

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: William H. Murray, Esquire

Internal Address: Duane Morris LLP

Street Address: One Liberty Place

City: Philadelphia State: PA Zip: 19103

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41).....\$ 40.00

☒ Enclosed☐ Authorized to be charged to deposit account

8. Deposit account number: \_\_\_\_\_

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9. Signature.

Steven E. Koffs, Esquire

Name of Person Signing

Signature: Steven E. Koffs Date: 12/31/03

Total number of pages including cover sheet, attachments, and documents: 3

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Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231PATENT  
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**ASSIGNMENT AND AGREEMENT**

For value received, we, **Hun-Jan Tao and Huan-Just Lin**, hereby sell, assign and transfer to **Taiwan Semiconductor Manufacturing Co., Ltd.**, with its principal place of business located at No. 8, Li-Hsin Road 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77, Republic of China, and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to **METHOD OF PULL BACK FOR FORMING SHALLOW TRENCH ISOLATION** described in an application for Letters Patent of the United States executed on even date herewith, and all the rights and privileges in said application and under any and all Letters Patent and any divisions, continuations, continuations-in-part, reexamination certificates, reissues, and extensions thereof that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Taiwan Semiconductor Manufacturing Co., Ltd. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize Taiwan Semiconductor Manufacturing Co., Ltd. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of Taiwan Semiconductor Manufacturing Co., Ltd. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Taiwan Semiconductor Manufacturing Co., Ltd. in the United States and in all countries foreign to the United States, or to such nominees as Taiwan Semiconductor Manufacturing Co., Ltd. may designate.

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EXPRESS MAIL NO. EV175962645US

Attorney Docket No.: N1085-00196  
[TSMC2003-0293]

We agree that, when requested, we shall, without charge to Taiwan Semiconductor Manufacturing Co., Ltd. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

Dated: ✓ 2003. 8. 12

✓ Hui-Jan Tao  
Hui-Jan Tao

Residence: ✓ 13F-3, No 17, Lane 175, Wu-Ling Rd., Hsinchu,  
Taiwan, ROC

Dated: ✓ 2003. 8. 12

✓ Huan-Just Lin  
Huan-Just Lin

Residence: ✓ 5F-5, No 7, Lane 175, Wu-Ling Rd., Hsin-chu,  
Taiwan, R.O.C.

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